# (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 15 September 2005 (15.09.2005)

**PCT** 

# (10) International Publication Number WO 2005/084145 A3

(51) International Patent Classification<sup>7</sup>: F02B 31/00

(21) International Application Number:

PCT/KR2005/000609

(22) International Filing Date: 4 March 2005 (04.03.2005)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:

10-2004-0015635 8 March 2004 (08.03.2004) KR 10-2004-0051615 2 July 2004 (02.07.2004) KR

- (71) Applicant (for all designated States except US):

  BO-KWANG INDUSTRIAL CO., LTD. [KR/KR];
  266-11, Mamyeong 2-ri, Naechon-myeon, Pocheon-gun,
  Gyeonggi-do 487-832 (KR).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): HONG, Young-Pyo [KR/KR]; Suyubyouksan A.P.T 5-1301, 205, Suyu-dong, Gangbuk-gu, Seoul 142-771 (KR).
- (74) Agent: DYNE PATENT & LAW FIRM; #205 Bubjun Bldg, 81-6, Wonchun-dong, Youngtong-gu, Suwon-si, Gyeonggi-do 442-380 (KR).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

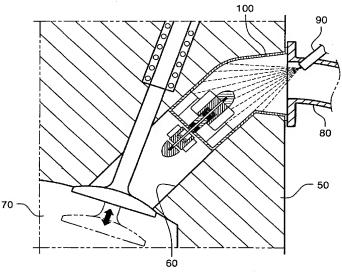
with international search report

(88) Date of publication of the international search report:

17 November 2005

[Continued on next page]

## (54) Title: INTERNAL COMBUSTION ENGINE HAVING FUEL MIXING MEANS INSTALLED IN INTAKE PORT



(57) Abstract: The present invention relates to an internal combustion engine, and more particularly, to an internal combustion having improved performance by promoting mixing of fuel and air using a fuel mixing means installed at an intake port to improve the flow property of the mixture introduced into a combustion chamber. In an internal combustion engine according to the present invention, a fuel mixing means is installed at an intake port for use in supplying a mixture of fuel and air into a combustion chamber. The fuel mixing means is provided with a stream-disturbing body having a plurality of vanes for disturbing a stream passing through the intake port. The stream-disturbing body is installed rotatably in the intake port to generate a vortex or turbulence so that fuel and air are mixed uniformly and then supplied into the combustion chamber.

### 

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.